

**STATE OF COLORADO**  
**Department of State**

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**Colorado Secretary of State**  
**Election Watch List**

March 12, 2007

**County**

Denver

**Background**

On November 7, 2006, the voters of Denver County experienced extremely long lines at most vote centers. The problems associated with the delays were mostly attributable to the failure of the Sequoia ePollBook to handle the volume of user activity on Election Day.

The county subsequently formed a task force, led by Mayor John Hickenlooper, to look into the issues associated with the Election Day problems. No evidence of fraudulent activity was reported. The panel developed recommendations for the Denver Election Commission ("DEC"). The county has since held a mail ballot special election in which the voters approved a measure to replace the DEC with an elected County Clerk and Recorder.

**Deficiencies**

The DEC failed to anticipate the shortcomings of the Sequoia ePollBook ("ePollBook"), which resulted in unacceptably long voter wait times and numerous reports of voters leaving vote centers without casting their ballot.

The DEC chose to contract with Sequoia to develop a custom-built application rather than adopt software already in use and proven capable, such as that used by Larimer County. The DEC software operates on a single application server, as opposed to that used by Larimer County, which operates on five (5) server applications, enabling Larimer County's system to withstand the volume of user activity during an election.

The DEC failed to load test the ePollBook to ensure that maximum capacity was achievable on Election Day. Additionally, the application was not designed to allow sessions to expire when the browser was closed. As a result, when judges closed the application by clicking on the "x" as opposed to using the "exit" function of the program, the session continued to run whereby overloading the system.

Fujitsu Consulting issued an independent audit report to the task force identifying a number of infrastructure problems with the ePollBook. Fujitsu identified three weaknesses with the server configuration that need to be addressed:

- The application and the database should reside on separate servers;
- Multiple application servers should be deployed to provide additional capacity and redundancy;
- A hard drive array should be implemented to provide enhanced redundancy and fault tolerance.

The DEC additionally failed to implement an adequate contingency plan once the ePollBook failed on Election Day. This was most clearly demonstrated by the fact that each polling location lacked an adequate supply of paper ballot backups. Many vote center locations ran out of provisional ballots by 8 a.m. and did not receive additional supplies until the afternoon.

### **Remediation**

The Secretary of State requires that Denver County examine the technical infrastructure of the ePollBook and adjust it to coincide with the recommendations made by Fujitsu Consulting; Denver County should also consider using the product implemented by Larimer County. At a minimum, Denver County should model the ePollBook infrastructure after the infrastructure implemented in Larimer County.

Denver County shall provide the Secretary of State with documentation illustrating the changes in technical infrastructure associated with the ePollBook, as well as the successful completion of load testing. A load test similar to that of Larimer County, using a 1 million voter pollbook, should be conducted; the results of this test shall be provided to the Secretary of State.

A contingency plan shall be created and provided to the Secretary of State detailing procedures to be used in the event of technological failure during an election. The plan shall address the counties back-up method to an electronic pollbook, for the vote center model, as well as communication procedures for election judges and DEC officials. Additionally, the plan shall address the method the county shall take to provide more paper ballots to a location in the event of a shortage. Specific methods shall be determined by the county election official and communicated to the Secretary of State; the objective being to ensure that voters are not subjected to unreasonable wait times.

Election judges are to be trained on necessary actions to be taken if there is a technological failure. A training program shall be developed to address the needs of a vote center, including enhanced training on the voting equipment and other technological advances associated with an election.

The Secretary of State shall require periodic conference calls with the Denver County elections staff, and ultimately the new County Clerk and Recorder. Updates will be provided by the county as to the status of preparation for the next election as well as the status of current corrections to identified deficiencies.

Lastly, the county is required to participate in the Secretary of State's certification program, which is currently being strengthened to ensure that the clerk and staff have a broad working knowledge of all aspects of election management.